



RCP, Inc

801 Louisiana, Ste.200
Houston, Texas 77002
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Redacted

November 22, 2011

Pacific Gas and Electric Company
350 N. Wiget
Walnut Creek, CA 94598
Attention: Redacted

Test Contractor:	ARB – T-12017
Asset Owner:	Pacific Gas and Electric Company -- 41474074
Construction Contractor:	ARB -- 0629-53-3500 T-12017
Test Section:	RCP 61362 - T-12017, L-132 MP 40.0447 - 40.0563
Test Date:	November 21, 2011
Certificate Number:	RCP 61362 - T-12017, L-132 MP 40.0447 - 40.0563

To whom it may concern,

This letter is to certify that the nitrogen pressure test performed on pipe owned by Pacific Gas and Electric Company and tested by ARB met the requirements of the Code of Federal Regulations, Title 49, Part 192, Subpart J (Class 3).

The test segment was subjected to a spike pressure test of 561 psig to 545 psig for 18 minutes. The 18 minute spike test and subsequent pressure reduction with volume bleed was not included as part of the 1 hour test duration period.

This nitrogen pressure test was completed successfully. Pressure was maintained on the test facilities in excess of 1 continuous hours without evidence of a leak failure. Nitrogen was the test medium. At the highest elevation point in the test section, the calculated test pressure was 530 psig and the MAOP per 49 CFR Part 192, Subpart J can be as high as 353 psig. The MAOP established by this test is sufficient to qualify for Pacific Gas and Electric Company's desired MAOP of 300 psig.

Sincerely,

Redacted

cc. file



Nitrogen Test Certification

Company	Pacific Gas and Electric Company	Job Number	41474074
Construction Co.	ARB	Job Number	0629-53-3500 T-12017
Hydro. Test Co.	ARB	Project No.	T-12017
Test Section	RCP 61362 - T-12017, L-132 MP 40.0447 - 40.0563		Test Medium:
File Name	RCP 61362 - T-12017, L-132 MP 40.0447 - 40.0563		Nitrogen

Nitrogen Test Pressure

APPLICABLE CODE FOR CERTIFICATION:

Test Date:

21-Nov-11

Code of Federal Regulations, Title 49, Part 192, Subpart J (Class 3)

This is to certify that the pipeline or pipeline section(s) described below was pressure tested, with nitrogen gas, in accordance with the following procedure:

Pipeline: RCP 61362 - T-12017, L-132 MP 40.0447 - 40.0563

From: 0+00

To: 0+61

Pipe Data

Segment	Length	Diameter	Wall Thickness	Specification	100% SMYS
1	2 ft	36.000 in.	0.500 in.	API5L-X65, DSAW, Arc Weld, Steel	1,806 psi
2	10 ft	24.000 in.	0.375 in.	API5L-X60, DSAW, Arc Weld, Steel	1,875 psi
3	4 ft	30.000 in.	0.375 in.	API5L-X65, DSAW, Arc Weld, Steel	1,825 psi
4	11 ft	6.625 in.	0.280 in.	API5L-Grade B, SM, Arc Weld, Steel	2,958 psi
5	85 ft	30.000 in.	0.375 in.	API5L-X52, DSAW, Arc Weld, Steel	1,300 psi
6	3 ft	36.000 in.	0.375 in.	API5L-X65, DSAW, Arc Weld, Steel	1,354 psi

Initial Test Conditions

Pressure at Test Point:	532 psig	Date/Time:	11/21/11 11:17 PM	Pipe Temperature	
Ambient Temperature:	46.0 °F	Elevation @ Test Point:	173.0 ft	Unrestrained:	65.0 °F
Pressure @ High Point (Cal/Measure):	532 psig	Elevation @ High Point:	173.0 ft	Restrained:	64.0 °F
Pressure @ Low Point (Cal/Measure):	532 psig	Elevation @ Low Point:	168.0 ft	Location:	00+00
				Location:	0+00
				Location:	0+61

Final Test Conditions

Pressure at Test Point:	530 psig	Date/Time:	11/22/11 12:17 AM	Pipe Temperature	
Ambient Temperature:	45.0 °F	Elevation @ Test Point:	173.0 ft	Unrestrained:	62.0 °F
Pressure @ High Point (Cal/Measure):	530 psig	Elevation @ High Point:	173.0 ft	Restrained:	63.0 °F
Pressure @ Low Point (Cal/Measure):	530 psig	Elevation @ Low Point:	168.0 ft	Location:	00+00
				Location:	0+00
				Location:	0+61

Test Duration: 1.00 hours

Minimum Test Pressure:	530 psig	530 psig	530 psig
Maximum Test Pressure:	532 psig	532 psig	532 psig
% SMYS :		40.9%	40.9%
Test Segment Observed % SMYS :	Minimum	18.0%	Maximum
		40.9%	
Minimum Test Pressure (Calculated/Measured):			530 psig
Maximum Allowable Operating Pressure:		DOT Part 192	Test Factor= 1.50
			353 psig
			% of SMYS
			27.2%

The MAOP established by this test is sufficient to qualify for Pacific Gas and Electric Company's desired MAOP of 300 psig.

Were leaks observed?	No	Explain:
Acceptable Hydrostatic Test?	Yes	The test segment was subjected to a spike pressure test of 561 psig to 545 psig for 18 minutes. The 18 minute spike test and subsequent pressure reduction with volume bleed was not included as part of the 1 hour test duration period. No leaks were observed during the test period. The test section included 85 feet of buried and 30 feet of exposed pipe. Pressure lost 2 psi during the test. The buried pipe segment lost 1°F fluid temperature and the exposed pipe segment lost 3°F. Test pressure remained steady and no leaks were observed.
Remarks		

Redacted

22-Nov-11



Nitrogen Pressure Test Dead Weight Log Sheet

Owner Company	Pacific Gas and Electric Company	Job Number	41474074
Construction Co.	ARB	Job Number	0629-53-3500 T-12017
Testing Co.	ARB	Project No.	T-12017
Test Section	RCP 61362 - T-12017, L-132 MP 40.0447 - 40.0563		
File Name	RCP 61362 - T-12017, L-132 MP 40.0447 - 40.0563		

Nitrogen

Date **21-Nov-11**

Test Log

Log No.	Test Period		Test Pressure	Temperature °F			Remarks		
	Date	Time		Ambient	Pipe		Comment		
					Unrestrained	Restrained			
1	11/21/11	8:53 PM	235 psig	47 °F	69 °F	60 °F	Inject		
2	11/21/11	8:57 PM	285 psig	47 °F	69 °F	60 °F	Inject		
3	11/21/11	9:00 PM	335 psig	47 °F	69 °F	60 °F	Inject		
4	11/21/11	9:04 PM	385 psig	47 °F	69 °F	60 °F	Inject		
5	11/21/11	9:08 PM	435 psig	47 °F	69 °F	60 °F	Inject		
6	11/21/11	9:11 PM	485 psig	47 °F	69 °F	60 °F	Inject		
7	11/21/11	9:15 PM	535 psig	47 °F	69 °F	60 °F	Inject		
8	11/21/11	9:17 PM	561 psig	47 °F	72 °F	61 °F	Start Spike		
9	11/21/11	9:20 PM	552 psig	47 °F	74 °F	61 °F			
10	11/21/11	9:25 PM	548 psig	47 °F	76 °F	61 °F			
11	11/21/11	9:30 PM	547 psig	47 °F	77 °F	62 °F			
12	11/21/11	9:35 PM	545 psig	47 °F	78 °F	62 °F	End Spike		
13	11/21/11	9:50 PM	542 psig	47 °F	69 °F	62 °F			
14	11/21/11	10:00 PM	540 psig	47 °F	69 °F	62 °F			
15	11/21/11	10:10 PM	538 psig	47 °F	69 °F	62 °F			
16	11/21/11	10:20 PM	538 psig	47 °F	69 °F	62 °F			
17	11/21/11	10:30 PM	536 psig	47 °F	69 °F	62 °F			
18	11/21/11	10:40 PM	535 psig	47 °F	69 °F	62 °F	Bleed		
19	11/21/11	10:47 PM	533 psig	46 °F	67 °F	64 °F			
20	11/21/11	10:57 PM	533 psig	46 °F	67 °F	64 °F			
21	11/21/11	11:07 PM	533 psig	46 °F	67 °F	64 °F			
22	11/21/11	11:17 PM	532 psig	46 °F	65 °F	64 °F	On Test		
23	11/21/11	11:27 PM	532 psig	46 °F	64 °F	64 °F			
24	11/21/11	11:37 PM	531 psig	46 °F	63 °F	64 °F			
25	11/21/11	11:47 PM	531 psig	45 °F	62 °F	64 °F			
26	11/21/11	11:57 PM	531 psig	45 °F	62 °F	63 °F			
27	11/22/11	12:07 AM	531 psig	45 °F	62 °F	63 °F			
28	11/22/11	12:17 AM	530 psig	45 °F	62 °F	63 °F	End of Test		

Spike Test

Hydrostatic Test

Were leaks observed during the test period?

Exposed and buried pipe, no leaks observed.

High Test Pressure: 532 psig

Low Test Pressure: 530 psig

Comments :

Pressure chart recorder indicates pressure spikes when needle valves are opened or closed during bleed operation (to accurately read pressure). Spikes on chart are artificial representing flow differentials for small volume piping near chart recorder and were not experienced by large diameter piping.

Nitrogen was injected into the line at approximately 100°F. The spike pressure of 561 psig was achieved and the test segment isolated from additional nitrogen pressure. The test spike pressure declined sharply for 18 minutes to 545 psig, when the spike test was concluded and the test segment pressure bled to 533 psig and monitored for stabilization. Test segment pressure was judged to have stabilized at 532 psig at 11:17 PM and the one hour pressure test initiated. The pressure decline during the spike test is attributed to stabilization of temperature from the 100°F to air and ground ambients.

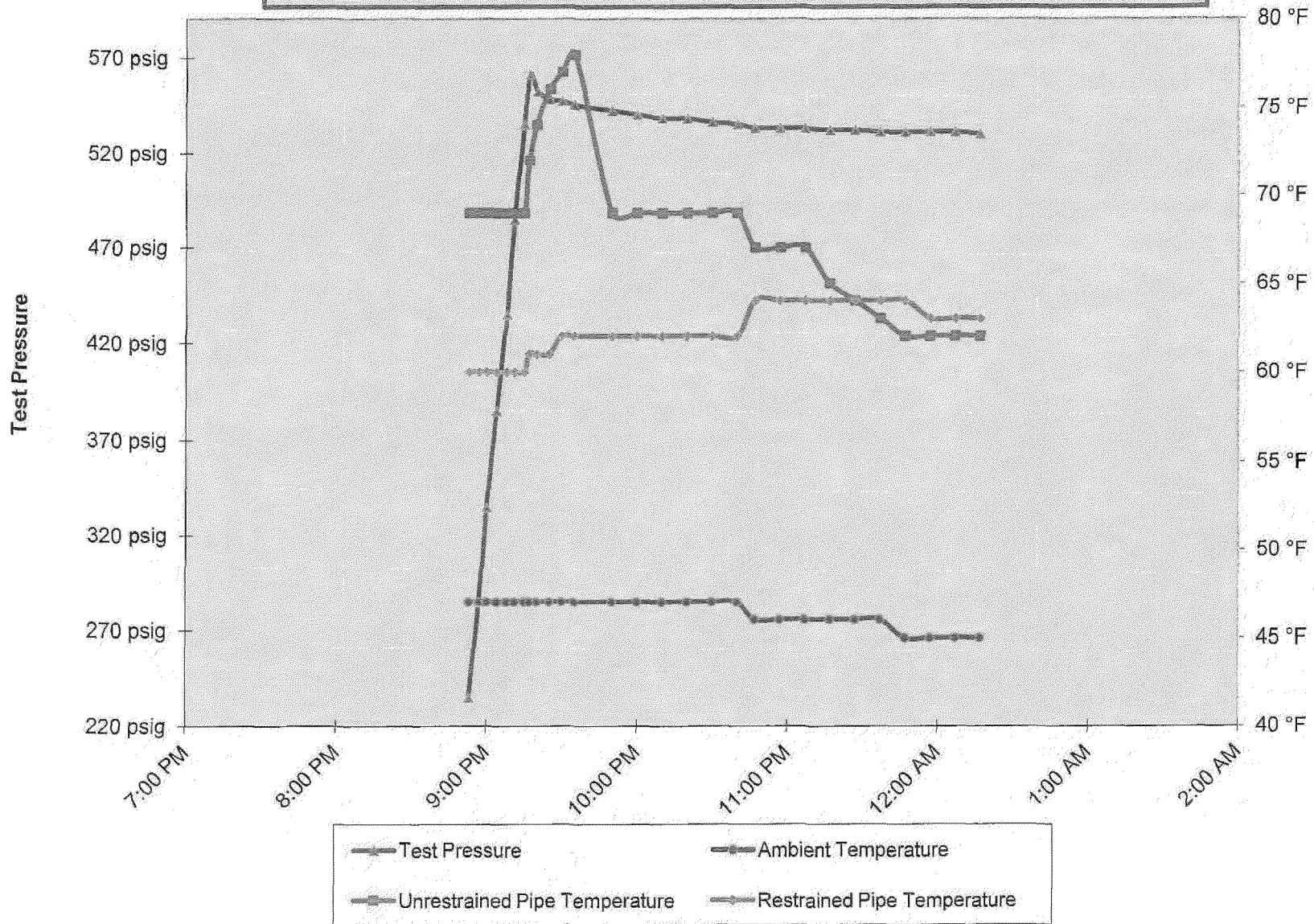
RCP			Nitrogen Pressure Test Pipe Data Table							
Pipe Type	Length	Restrained / Unrestrained	Outside Diameter	Wall Thickness	Specification & Grade	Pipe Yield Pressure	Material	Joint Type	Seam Type	
1	2.00 ft	Unrestrained	36.000 in.	0.500 in.	API5L-X65	1,806 psig	Steel	Arc Weld	DSAW	
2	10.00 ft	Unrestrained	24.000 in.	0.375 in.	API5L-X60	1,875 psig	Steel	Arc Weld	DSAW	
3	4.00 ft	Unrestrained	30.000 in.	0.375 in.	API5L-X65	1,625 psig	Steel	Arc Weld	DSAW	
4	10.50 ft	Unrestrained	6.625 in.	0.280 in.	API5L-Grade B	2,958 psig	Steel	Arc Weld	SM	
5	85.00 ft	Restrained	30.000 in.	0.375 in.	API5L-X52	1,300 psig	Steel	Arc Weld	DSAW	
6	3.10 ft	Unrestrained	36.000 in.	0.375 in.	API5L-X65	1,354 psig	Steel	Arc Weld	DSAW	

Nitrogen Test Project Owner & Participants		
Owner Company	Pacific Gas and Electric Company	Job Number
Address	350 N. Wiget Walnut Creek, CA 94598 Attention: Redacted	41474074
Construction Company	ARB	Job Number
Address	1875 Loveridge Road Pittsburg, CA 94565 Attention: Redacted	0629-53-3500 T-12017
Hydrostatic Test Co.	ARB	Project No.
Address	1875 Loveridge Road Pittsburg, CA 94565 Attention: Redacted	T-12017
Test Section	RCP 61362 - T-12017, L-132 MP 40.0447 - 40.0563 From: 0+00 To: 0+61	
File Name	RCP 61362 - T-12017, L-132 MP 40.0447 - 40.0563	

Part II - Test Data (TO BE PREPARED BY PERSON SUPERVISING TEST AT TIME OF TEST)				Note: Minimum test pressure and duration are not to be changed without written approval.			
Time and Date Test Pressure Reached	11/21/11 11:17 PM	Elevation at Test Point	173 ft	Min. Required Test Press At Test Point (1)	510.00 psig	Max. Allowable Test Press at Test Point (4)	577.83 psig
Time and Date Test Ended	11/22/11 12:17 AM	Max. Elevation in Test Section	173 ft	Min. Indicated Test Pressure (2)	530.00 psig	Max. Indicated Test Pressure (5)	532.00 psig
Actual Duration of Test	1 hours 0 minutes	Min. Elevation in Test Section	168 ft	Min. Test Pressure at Max. Elevation (3)	530.00 psig	Max. Test Pressure at Min. Elevation (6)	532.11 psig
Hydrostatic Test Date:	11/21/11 8:53 PM	Code of Federal Regulations, Title 49, Part 192, Subpart J (Class 3)					
Pacific Gas and Electric Company's desired MAOP				300 psig			
Nitrogen Density at Maximum Test Pressure				3.121 lb/sq. ft.			
Elevation @ Test Point:	173.00 ft	Location:	00+00				
Elevation @ High Point:	173.00 ft	Location:	0+00				
Elevation @ Low Point:	168.00 ft	Location:	0+61				
Minimum Test Pressure At Maximum Elevation	510.00 psig	Maximum Test Pressure at Minimum Elevation	580.00 psig				

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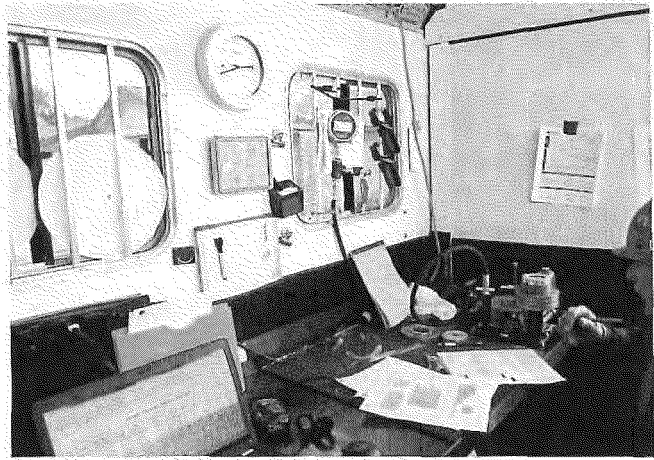
RCP 61362 - T-12017, L-132 MP 40.0447 - 40.0563



RCP



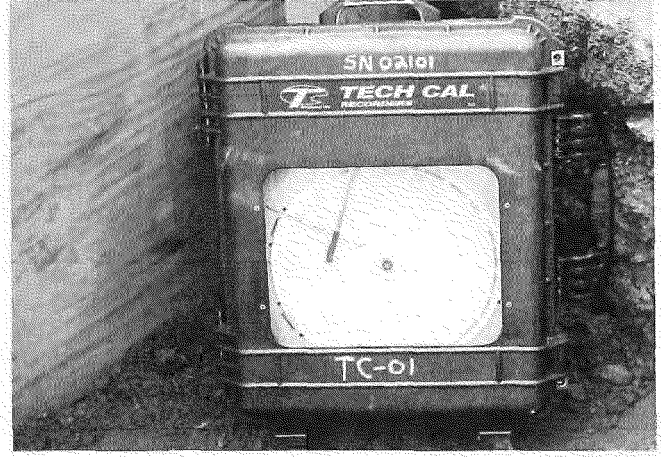
Test 12017 spools included in test



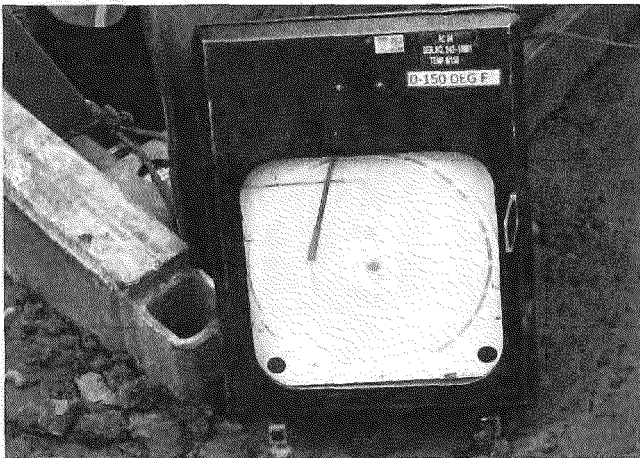
Test 12017 deadweight tester and digital gage



Test 12017 station sign at test site



Test 12017 unrestrained temp. recorder

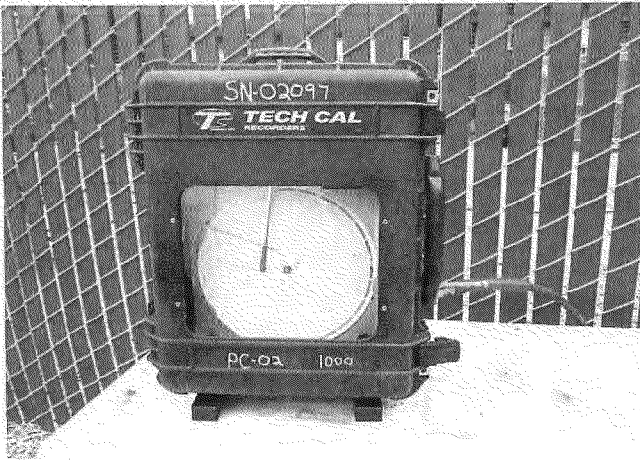


Test 12017 restrained temp. recorder



Test 12017 N2 pump truck at test site

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Test 12017 pressure recorder